

STATUS OF CLAIMS

1. (Original) A multi-function actuator comprising:
 - a case having an internal space;
 - a vibrating coil installed in said case for generating vibration;
 - a diaphragm for generating sound with an outer end being fixed to the upper end of said case;
 - a voice coil fixedly installed in the bottom of said diaphragm for generating sound according to a sound source and having an notch filter;
 - a vertically magnetized magnet;
 - an upper plated attached to said magnet for constituting a magnetic circuit;
 - a yoke for constituting the magnetic circuit together with said magnet;
 - a weight for constituting a vibrator body together with said magnet, said upper plate and said yoke; and
 - a suspension spring for supporting said vibrator body.
2. (Original) The multi-function actuator according to claim 1, wherein said notch filter of said voice coil has a frequency range of 100 to 500Hz.
3. (Original) The multi-function actuator according to claim 1, wherein said notch filter of said voice coil is integrally comprised in the inside thereof.

4. (Original) The multi-function actuator according to claim 1, wherein said vibrating coil is arranged on a grill in said case.

5. (Original) A multi-function actuator comprising:

a case having an internal space;

a vibrating coil installed in said case for generating vibration;

a diaphragm for generating sound with an outer end being fixed to the upper end of said case;

a voice coil fixedly installed in the bottom of said diaphragm for generating sound according to a sound source and having a high-pass filter;

a vertically magnetized magnet;

an upper plated attached to said magnet for constituting a magnetic circuit;

a yoke for constituting the magnetic circuit together with said magnet;

a weight for constituting a vibrator body together with said magnet, said upper plate and said yoke; and

a suspension spring for supporting said vibrator body.

6. (Original) The multi-function actuator according to claim 5, wherein said high-pass filter comprises an inductor and a capacitor.

7. (Original) The multi-function actuator according to claim 6, wherein said inductor is connected in parallel and said capacitor is connector is series.

16. (Original) The multi-function actuator according to claim 5, wherein said high-pass filter of said voice coil is integrally included therein.

17. (Original) The multi-function actuator according to claim 5, wherein said vibrating coil is installed on a grill in said case.

18. (Original) The multi-function actuator according to claim 6, further comprising a second inductor and a second capacitor.

19. (Original) The multi-function actuator according to claim 18, wherein ones of said inductors and said capacitors are respectively connected in series to said voice coil, and the other ones of said inductors and said capacitors are mutually connected in series and connected to a positive terminal of a power source.